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PATENT SPECIFICATION

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MAIN PATENT

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Gasoline, Oil and Grease Collector

Eliminating water pollution is still a crucial matter today. And commercial waste water plays a big role in this. Large quantities of gasoline, oil and grease from shops and garages flow through the sewers, because either no collection devices are installed or they do not work. Today, there are few workable gasoline, oil and grease collectors on the market; and there are none for large garages.

We can differentiate between two types of collectors. First of all, those in which the substances collected stay in the collection space, i.e., on water, and secondly, those in which the substances collected flow off into a special space. The latter type is preferred, because skimming quantities of gasoline, oil and grease off the water below is a dubious matter, because there is always some water that comes with it, making the quantities of gasoline, oil and grease removed unusable.

A gasoline, oil and grease collector must be built on physical principles, because it must serve its purpose. When the second type of collector is built, i.e., the one with the special gasoline, oil and grease space, special care must be taken that the highly fluctuating influx does not cause large fluctuations in the water level in the collection space, because otherwise the spill height in the gasoline, oil and grease space must be set too high. If there is no gasoline, oil or grease in the collection space, the high water influx due to contraction and round runoff holes will push the water level in the collection space so high that water overflows into the gasoline, oil and grease space. If this possibility is prevented by putting in a spill hole, when the influx is low, if the gasoline, oil and grease are brought along, the layer of suspended matter is so thick that practical construction of the collector is no longer possible. The arrangement of horizontal slots on the model commercially available thus far helps with this problem. Sharp fluctuations of influx results in only mild fluctuations in water level in the collection space. As a result, the spillover can also be kept to the right size in the gasoline, oil and grease space.

The subject of this invention is a gasoline, oil and grease collector with a liquid inlet tank, a collection space, a sludge space, an outlet tank and a gasoline, oil and grease space, which collector is characterized by the fact that the inlet from the inlet tank into the collection space and the outlet from the sludge space into the outlet tank go through horizontal slots to make it easier to separate the gasoline, oil and grease, on one hand, and the sludge and water, on the other, and to prevent a sharp rise in the water level in the collection space in order to guarantee a perfect overflow of gasoline, oil and grease into the gasoline, oil and grease space.

A float can be built into the gasoline, oil and grease space that automatically sets off a signaling device or a pump as soon as the space is full.

The enclosed drawings show one example of the subject of the invention.

Fig. 1 is a vertical cross section along Line I-I in Fig. 4;

Figs. 2 and 3 are vertical sections along Lines II-II and III-III in Fig. 1, and

Fig. 4 is a horizontal section along IV-IV in Fig. 1.

The main body, which is made out of cast iron or reinforced concrete, has mainly rectangular or square contours. It has an inlet tank A, a collection space B, a sludge space C, an outlet tank D and a gasoline, oil and grease space E.

It works as follows: The liquid comes through the grid F or through the pipe G into the inlet tank A and from there goes through the horizontal slot a, which distributes the liquid along the whole width of the collection space and makes collection easier, in the collection space B. Here, the suspended matter stays: gasoline, oil and grease; the sludge sinks to the bottom. The bottom slopes toward the sludge space. The water flowing through slot b under the wall H separating spaces B and C from one another takes the sludge with it into the sludge space C and leaves it there. The water rises up to horizontal slot c, which prevents the water level from rising too high, and flows through it into the outlet tank D and from there through the round hole 3 into the sewer. The separated gasoline, oil and grease flow through the hole d in the wall separating spaces E and B,C into the gasoline, oil and grease space E. If space E is full, the float J there sets off a signaling device to show the operating personnel that the gasoline, oil and grease space must be emptied, or a pump is automatically set off by the float, and it empties the gasoline, oil and grease space. The pump is especially advantageous when the collectors are used in large garages.

PATENT CLAIM

A gasoline, oil and grease collector with a liquid inlet tank, a collection space, a sludge space, an outlet tank and a gasoline, oil and grease space, which collector is characterized by the fact that the inlet from the inlet tank into the collection space and the outlet from the sludge space into the outlet tank go through horizontal slots to make it easier to separate the gasoline, oil and grease, on one hand, and to prevent a sharp rise in the water level in the collection space, in order to ensure a perfect overflow of gasoline, oil and grease into the gasoline, oil and grease space.

SUBCLAIMS

1. The gasoline, oil and grease collector in the Patent Claim, characterized by the fact that the collection space, the sludge space and the gasoline, oil and grease spaces are separated from one another.
2. The gasoline, oil and grease collector in the Patent Claim, characterized by the fact that the gasoline, oil and grease space is provided with a float, which sets off a signal device as soon as that space is full.
3. The gasoline, oil and grease collector in the Patent Claim, characterized by the fact that the gasoline, oil and grease space is provided with a float, which automatically sets off a pump as soon as that space is full.

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